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NXP, B.V.
NXP INTELLECTUAL PROPERTY DEPARTMENT
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

EXAMINER

SHELL, JOSEPH O

ART UNIT	PAPER NUMBER
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2114

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/517,109	Applicant(s) WAGNER ET AL.	
	Examiner JOSEPH SCHELL	Art Unit 2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 1-9 and 11-16 have been examined.

Claims 1-9 and 11-16 have been rejected.

Response to Arguments

1. The arguments filed August 25, 2008 have been considered but are moot in view of the new grounds of rejection.

Claim Objections

2. Claim 4 line 5 should read "permitting the non-volatile memory area to be written to".
3. Claim 8 line 3 states the limitation "the exchange of data with the microcontroller unit". This limitation lacks antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 3-1, 5, 6, 8-6, 9-5, 9-6, 11, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun (US Patent Application Publication 2003/0226059).

5. As per claim 1, Braun ('059) discloses a method for monitoring the operation of at least one microcontroller unit that is associated with a system, the method comprising:

associating at least one non-volatile memory area with the microcontroller unit (as shown in Figure 1, the server unit, and as stated in the abstract, the central server stores log files. The server unit includes mass storage (paragraphs 29 and 30), which one of ordinary skill in the art would understand as using non-volatile storage); and

storing at least one set of statistics relating to the operation of the microcontroller unit, including at least one set of fault statistics for the microcontroller, by means of the non-volatile memory area (see abstract, reboot status of the terminal over a length of time is stored in the database).

Braun ('059) does not expressly disclose that the non-volatile memory area can be read from by the microcontroller unit and written by the microcontroller unit.

At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the distributed terminal system disclosed by Braun ('059) such that the terminals may be used to read from and write to the database. This modification would have been obvious because the terminals are described as exchanging data with the

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server (paragraph 25), and the recorded log file reflects records generated and provided by the terminals (paragraph 47). Furthermore, the use of a PDA or laptop (paragraph 26, a terminal being described as a PDA or laptop) to access the collected reports from the database (paragraph 53) provides obvious benefits in portability and convenience for the user.

6. As per claim 3-1, Braun ('059) discloses a method as claimed in claim 1, wherein

- in relation to the operation of the microcontroller unit a distinction can be made between different reset events (paragraph 75), and
- these different reset events can be made accessible to the microcontroller unit (paragraph 75, it is the terminal that experiences the crashes and reboots, these events are thus made accessible and known to it).

7. As per claim 5, this claim recites limitations found in claim 1 and is rejected on the same grounds as claim 1.

8. As per claim 6, Braun ('059) discloses a base chip as claimed in claim 5, including

- at least one information unit that is provided to allow for different reset events (paragraph 35, hard or soft shutdown events and paragraph 36, crash shutdown events. See also paragraph 69 for a description of the flagging mechanics. Also the log records separate kinds of reset events, see paragraph 75),

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- at least one reset unit for resetting the microcontroller unit, which reset unit is connected to the microcontroller unit (paragraph 68, the shut down program), and
- at least one supply unit that is connected to the microcontroller unit (paragraph 26 describes the terminals as desktops, laptops and PDAs. It would be obvious to one of ordinary skill in the art that all of these devices utilize power supplies).

9. As per claim 8-6, Braun ('059) discloses a base chip as claimed in claim 6, wherein the memory area and the information unit have inserted in front of them at least one interface unit for the exchange of data with the microcontroller unit (the memory area is remotely location on the server, so there are at least network interfaces, operating system interfaces and memory interfaces between the terminal and the server's collective log. The information unit on the central server is behind similar interfaces that it uses to communicate with the terminal).

10. As per claims 9-5 and 9-6, Braun ('059) discloses a system including at least one microcontroller unit intended for at least one application and at least one base chip as claimed in claims 5 or 6 (as shown in Figure 1, the system includes terminals and central server).

11. As per claim 11, Braun ('059) discloses the method of claim 1, wherein the fault statistics include statistics on a plurality of different types of reset events (paragraph 75).

12. As per claim 13, Braun ('059) discloses the base chip of claim 5, wherein the at least one non-volatile memory area comprises a random access memory (paragraph 30, the server storage includes RAM in addition to the mass storage. Additionally it is well known in the art that hard disks often utilize a memory cache to increase performance).

13. As per claim 14, this claim recites limitations found in claim 11 and is rejected on the same grounds as claim 11.

14. Claims 2, 3-2, 7, 8-7 and 9-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun ('059) in view of Wikipedia's Uninterruptible Power Supply (herein UPS).

15. As per claim 2, Braun ('059) discloses the method as claimed in claim 1. Braun ('059) does not expressly disclose the system wherein the memory area is permanently supplied by at least one battery unit.

UPS teaches the use of a special batter supply that is constantly available to a system and can take over when power fails (see Note 1).

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At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the centralized terminal reboot tracking system disclosed by Braun ('059) such that the database utilizes a uninterruptible power supply, as taught by UPS. This modification would have been obvious because it eliminates temporary power outages for the database (UPS, first paragraph).

16. As per claim 3-2, Braun ('059) in view of UPS discloses a method as claimed in claim 2, wherein

- in relation to the operation of the microcontroller unit a distinction can be made between different reset events (Braun ('059) paragraph 75), and

- these different reset events can be made accessible to the microcontroller unit (Braun ('059) paragraph 75, it is the terminal that experiences the crashes and reboots, these events are thus made accessible and known to it).

17. As per claim 7, Braun ('059) in view of UPS discloses the base chip as claimed in claim 6, wherein

- the microcontroller unit has at least one temporary energy supply provided to it via the supply unit (Braun ('059) paragraph 26, PDAs and laptops use batteries as temporary energy supplies).

Braun ('059) does not expressly disclose the base chip wherein

-the memory area and the supply unit are permanently supplied with power from at least one battery unit.

UPS teaches the use of a special batter supply that is constantly available to a system and can take over when power fails (see Note 1).

At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the centralized terminal reboot tracking system disclosed by Braun ('059) such that the database utilizes a uninterruptible power supply, as taught by UPS. This modification would have been obvious because it eliminates temporary power outages for the database (UPS, first paragraph).

18. As per claim 8-7, Braun ('059) in view of UPS discloses a base chip as claimed in claim 7, wherein the memory area and the information unit have inserted in front of them at least one interface unit for the exchange of data with the microcontroller unit (in Braun ('059) the memory area database is remotely location on the server, so there are at least network interfaces, operating system interfaces and memory interfaces between the terminal and the server's collective log. The information unit on the central server is behind similar interfaces that it uses to communicate with the terminal).

19. As per claim 9-7, Braun ('059) in view of UPS discloses a system including at least one microcontroller unit intended for at least one application and at least one base

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chip as claimed in claim 7 (as shown in Braun ('509) Figure 1, the system includes terminals and central server).

20. Claims 4-1 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun ('059) in view of Jablon (US Patent 5,421,006).

21. As per claim 4-1, Braun ('059) discloses a method as claimed in claim 1 further comprising permitting the non-volatile memory area to be read from at any time (paragraph 30, regular RAM, ROM and mass storage appear to be used).

Braun ('059) does not expressly disclose the method further comprising permitting the non-volatile memory area to be written to only while the system is starting.

Jablon ('006) teaches a device that utilizes a special write protected memory that is only writable after being reset into write-enable mode (see abstract).

At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the boot logging system disclosed by Braun ('059) such that the host's database employs write protected memory that is only writable after being reset, as taught by Jablon ('006). This modification would have been obvious because this write protection mechanism is immune to malicious software attempts to enable memory-writing (see Jablon ('006) abstract, about 2/3's of the way down) and can be used with

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secure process verification techniques to stop virus and Trojan attacks from writing to memory (Jablon ('006), see abstract).

22. As per claim 16, this claim recites limitations found in claim 4-1 and is rejected on the same grounds as claim 4-1.

23. Claim 4-2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun ('059) in view of UPS and Jablon ('006).

Braun ('059) in view of UPS discloses a method as claimed in claim 2 further comprising permitting the non-volatile memory area to be read from at any time (paragraph 30, regular RAM, ROM and mass storage appear to be used).

Braun ('059) in view of UPS does not expressly disclose the method further comprising permitting the non-volatile memory area to be written to only while the system is starting.

Jablon ('006) teaches a device that utilizes a special write protected memory that is only writable after being reset into write-enable mode (see abstract).

At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the boot logging system disclosed by Braun ('059) such that the host's

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database employs write protected memory that is only writable after being reset, as taught by Jablon ('006). This modification would have been obvious because this write protection mechanism is immune to malicious software attempts to enable memory-writing (see Jablon ('006) abstract, about 2/3's of the way down) and can be used with secure process verification techniques to stop virus and Trojan attacks from writing to memory (Jablon ('006), see abstract).

24. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braun ('059) in view of Daudelin (US Patent 6,314,532).

25. As per claim 12, Braun ('059) discloses the method of claim 11. Braun ('059) does not expressly disclose the method further comprising:

comparing a number of at least one type of reset event to a threshold; and
when the number of the at least one type of reset event is greater than the threshold, operating the microcontroller unit in a low-energy mode.

Daudelin ('532) teaches a system that counts abnormal shutdown events (column 2 lines 32-36), compares the number to a threshold, and performs recovery operations if the threshold is surpassed (column 2 lines 40-44).

At the time of invention it would have been obvious to a person of ordinary skill in the art to modify the distributed system with centralized restart event logging disclosed by

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Braun ('059) such that the abnormal reboot statuses are compared to a threshold, and a recovery action is performed if the threshold is exceeded, as taught by Daudelin ('532). This modification would have been obvious because when a program fails or crashes it is likely that it must be updated, upgraded, or otherwise corrected (Daudelin ('532) column 1 lines 26-30) and a threshold allows the system to continue despite a low rate of failure that does not immediately require assistance (Daudelin ('532) column 5 lines 5-20).

At the time of invention it would have been further obvious that, upon reaching a threshold number of abnormal resets, if the system can not remotely contact the central server to perform an update recovery (counter to the assumption by Daudelin ('532) column 5 lines 60-64, that the remote site will be able to contact the host), that the faulty station instead shuts down. This modification would have been obvious because a sanity timer device in the station continually reboots the station unless it receives periodic resets from the host (Daudelin ('532) column 5 lines 41-55) and simply shutting down a faulty device would save power and potentially contain additional problems caused by a continually rebooting station.

26. As per claim 15, this claim recites limitations found in claim 12 and is rejected on the same grounds as claim 12.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH SCHELL whose telephone number is (571)272-8186. The examiner can normally be reached on Monday through Friday 9AM-4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott T Baderman/
Supervisory Patent Examiner, Art Unit 2114

JS